

IN THE CLAIMS:

All presently pending claims are reproduced below:

1. (Currently Amended) A support device on a assembly (14) of a first and a second cooled casting rolls (11, 11') with a pair of plates (30, 30') abutted on each end of said pair of rolls (11, 11'), working as a mould ~~an ingot mould~~ (10) for continuous metal strip casting, said first and second rolls (11, 11') having parallel axes (X, X') and each of them being supported by at least one movable support element (17, 17', 19, 19') near to the axial ends, said movable support elements (17, 17', 19, 19') being suitable for allowing a mutual movement of approaching and distancing of said rolls (11, 11') of said pair, each movable support element (17, 19) associated with the first roll (11) being connected to said assembly by means of its respective hydraulic actuator (18, 18') suitable for thrusting said first roll (11) in the direction of said second roll (11') and suitable for thrusting each support element (17, 17') against an abutting end element (16), each movable support element (17', 19') associated with the second roll (11') being connected to said assembly by a magnetostrictive actuator and a load cell ~~actuation means (15, 15'), wherein said actuation means (15, 15') are~~ suitable for making said second roll (11') perform movements of mutual approaching and distancing from said first roll (11), wherein a bar of the magnetostrictive actuator is provided with a preloading system and ~~that between~~ each movable support element (17, 17', 19, 19') and said assembly (14) there is provided at least one respective hydraulic bearing (13, 13') ~~is provided~~ suitable for allowing sliding movement of each of said movable support elements (17, 17', 19, 19') with respect to said assembly (14).

2. (Cancelled)

3. (Currently Amended) The device according to claim 2, wherein there is provided at least one joint (20) supporting a cooling liquid conduit between said rolls (11, 11') and said

assembly suitable for ~~recovering displacements~~ allowing for mutual approaching and distancing of said rolls (11, 11') in an orthogonal direction to the axes of said rolls (11, 11') is provided.

4. (Original) The device according to claim 3, wherein said joint (20) comprises a telescopic tube (21) inserted substantially horizontally in a housing (22) connected to said assembly, said tube being suitable for sliding along its own axis in said housing.

5. (Original) The device according to claim 4, wherein a bellows or a compensator (27) is set between said assembly and said housing.

6. (Original) The device according to claim 5, wherein an abutment means (25, 26) is provided to limit the displacements of said housing in the direction of the axis of said telescopic tube (21).

7. (Currently Amended) A method for controlling and adjusting the axial distance of the casting rolls (11, 11') for a continuous metallic strip casting implemented with the device of claim 1 comprising the following stages:

a) operating said hydraulic actuator (18, 18') to make a first roll (11) approach in the direction of the second roll (11') until at least one respective movable support element (17, 19) associated with the first roll (11) is in close contact against an abutting end element (16).

b) ~~providing control and adjustment means suitable for~~ emitting control signals to a magnetostrictive actuator ~~the actuation means (15, 15')~~ depending on the signals received relevant to suitable process parameters;

c) operating the magnetostrictive actuator ~~actuation means (15, 15')~~ to apply a force onto the movable supports elements (17', 19') associated with the second roll (11')

in the direction of a mutual approaching to or of a distancing from the first roll (11) by sliding on at least a respective hydraulic bearing (13, 13') depending on the intensity variation of a roll separation force, so that a minimum gap between the rolls (11, 11') is kept constant.

8. (Previously Presented) The method according to claim 7, wherein a control system varies the intensity of magnetic fields either to elongate or shorten magnetostrictive bars comprised in said actuation means (15) as a function of the intensity variation of the separation force.

9. (New) A support device on an assembly of first and second cooled casting rolls with a pair of plates abutted on each end of said pair of rolls, working as a mould for continuous metal strip casting, said first and second rolls having parallel axes and each roll being supported by at least one movable support element, said movable support elements being operative for allowing movement of approaching and distancing of said rolls, each movable support element associated with the first roll being connected to said assembly, each movable support element associated with the second roll being connected to said assembly by a magnetostrictive actuator operative to permit incremental movement of approaching and distancing between the first and second rolls.

10. (New) The device according to claim 9 further comprising a control system operative to vary the intensity of magnetic fields about a magnetostrictive bar of the actuator to either elongate or shorten the magnetostrictive bar as a function of the separation force.

Should the Examiner have any suggestions for expediting allowance of the application,
please contact Applicant(s) representative at the telephone number listed below.

If any additional fee is due, please charge deposit account 19-4330.

Respectfully submitted,

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By:



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